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(71) Applicant (for all designated States except US): **HERIOT-WATT UNIVERSITY** [GB/GB]; Edinburgh, EH14 4AS (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TOWERS, David, Peter** [GB/GB]; School of Engineering & Physical Sciences, Heriot-Watt University, Edinburgh EH14 4AS (GB).

**TOWERS, Catherine, Elizabeth** [GB/GB]; School of Engineering & Physical Sciences, Heriot-Watt University, Edinburgh EH14 4AS (GB). **JONES, Julian, David, Clayton** [GB/GB]; Heriot-Watt University, Edinburgh EH14 4AS (GB).

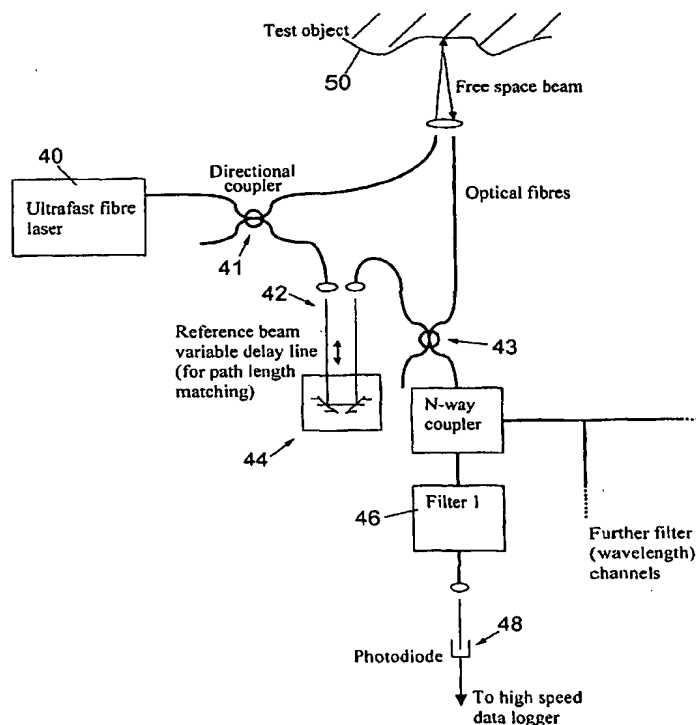
(74) Agents: **MACDOUGALL, Donald, Carmichael et al.**; Cruikshank & Fairweather, 19 Royal Exchange Square, Glasgow G1 3AE (GB).

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(54) Title: PHASE MEASURING METHOD AND APPARATUS FOR MULTI-FREQUENCY INTERFEROMETRY



(57) Abstract: The invention provides a novel method for absolute fringe order identification in multi-wavelength interferometry based on optimum selection of the wavelengths to be used. A theoretical model of the process is described which allows the process reliability to be quantified. The methodology produces a wavelength selection which is optimum with respect to the minimum number of wavelengths required to achieve a target dynamic measurement range. Conversely, the maximum dynamic range is produced from a given number of optimally selected wavelengths utilised in a sensor. The new concept introduced for optimum wavelength selection is scalable, i.e. from a three wavelength system to a four wavelength system, from four wavelengths to five, etc.

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